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(56) Documents Cited

EP 0081433 A2 DE 004340814 A1

(58) Field of Search

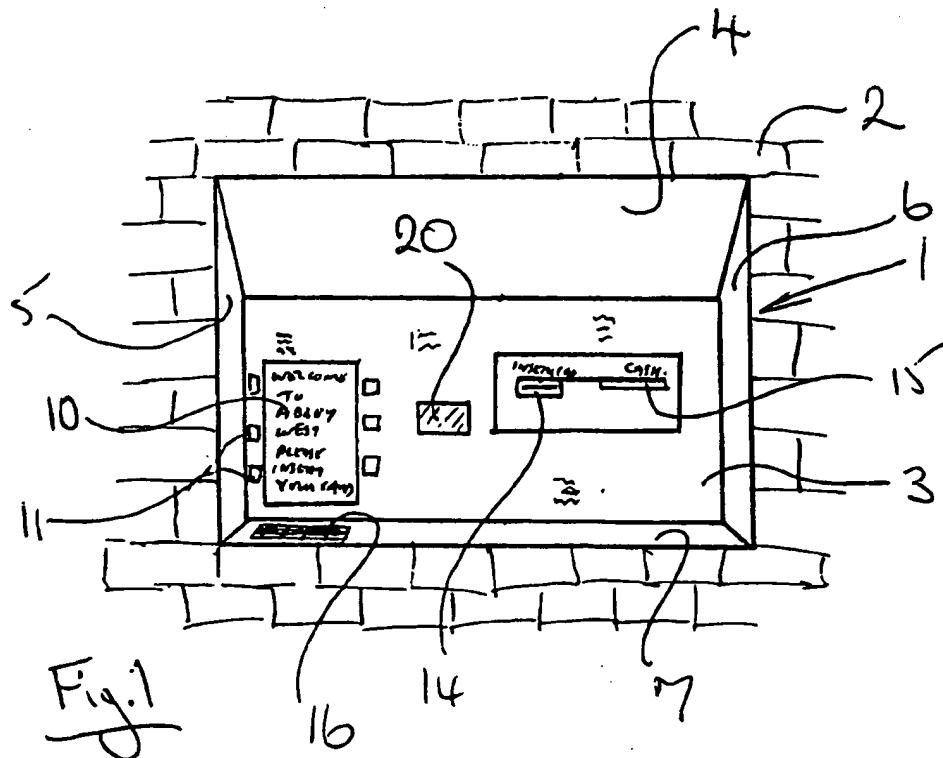
UK CL (Edition O ) G4V VAK VBH , G4X X5

INT CL<sup>6</sup> G07F 19/00

ONLINE: WPI

## (54) Cash-dispensing machines

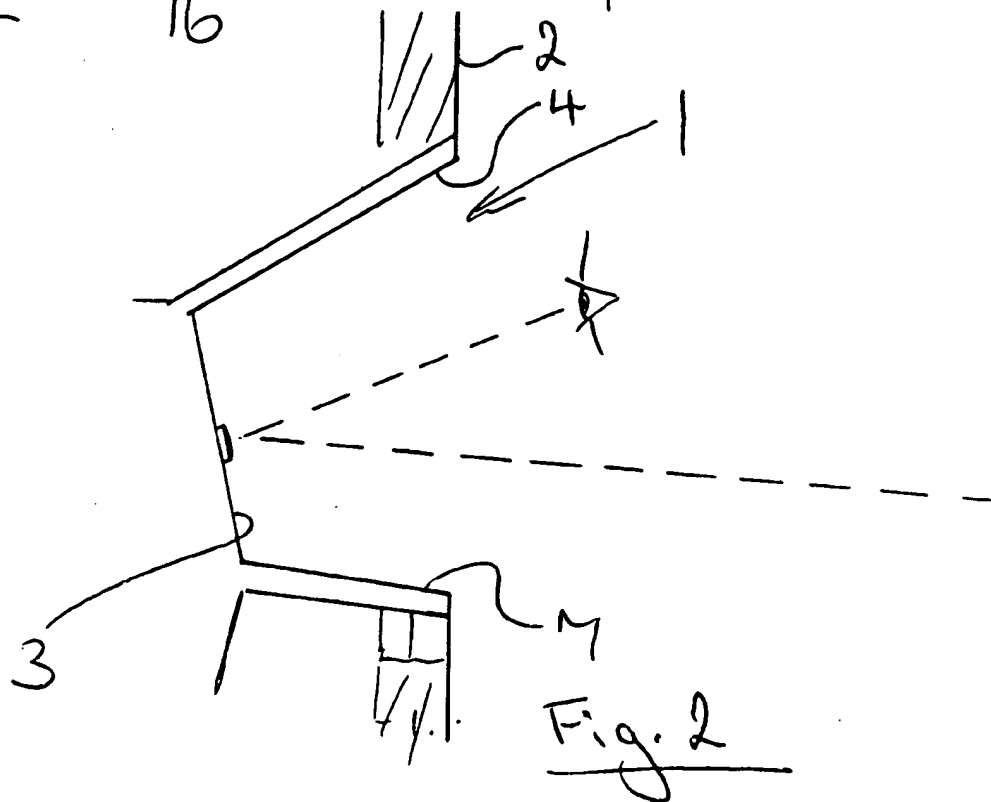
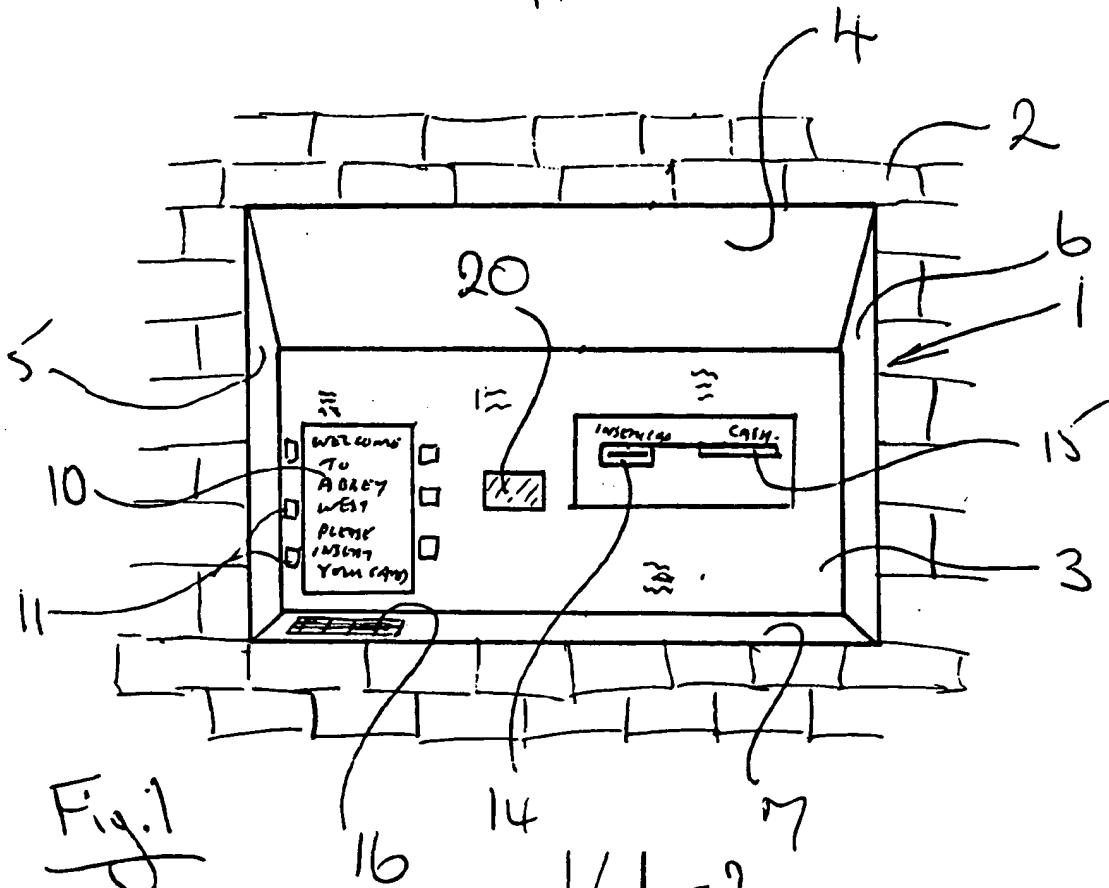
(57) A cash machine 1 has a convex rear-view mirror 20 mounted on its back panel 3. The mirror is formed of a shatter-proof scratch-resistant substance such as chromium-plated brass or stainless steel and is generally of rectangular shape (e.g. 50mm x 80mm) with a convex reflective surface. The mirror is attached to the back panel 3 by epoxy resin bonding or by bolts for example. The mounting can be arranged to position the reflective surface at the required angle to enable a user to see anyone approaching from behind whilst using the machine.



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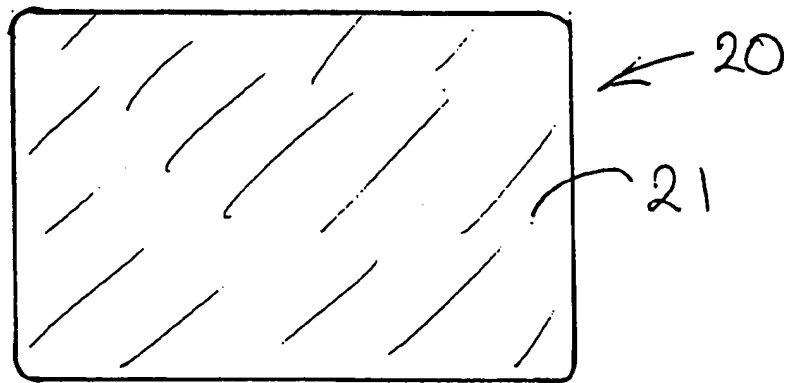


Fig. 3

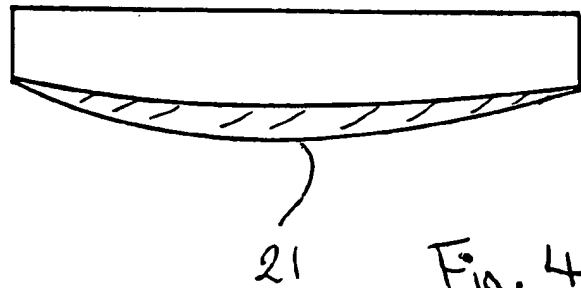


Fig. 4

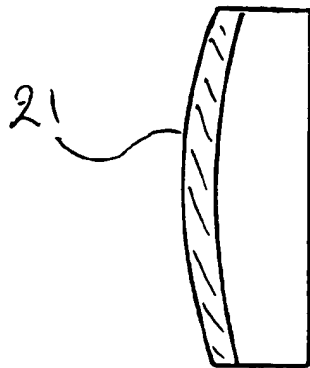


Fig. 5

## **CASH DISPENSING MACHINES**

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### **TECHNICAL FIELD OF THE INVENTION**

This invention relates to cash dispensing machines.

### **BACKGROUND**

It is common for cash to be withdrawn from a bank, building society or the like by means of a machine which is mounted in a wall. The user is provided with an identification card which must be inserted into the machine and the correct pin number keyed in before the required amount of cash can be dispensed.

The machine is generally located in a public place, usually outdoors. Thus, there is always a risk that a potential thief can approach the user and make a grab for the cash as soon as it is dispensed from the machine. There is also a risk that a thief will watch to see the identification number which is keyed in and then snatch the card, possibly using it to make a substantial cash withdrawal before the theft can be reported.

A general aim of the present invention may be viewed as being to improve

the security of cash machines.

## SUMMARY OF THE INVENTION

The present invention proposes a wall-mounted cash dispensing machine including at least one rear-view mirror positioned such that the user of the machine can see behind him/her whilst operating the machine.

The mirror is preferably of convex shape to increase the field of vision.

The mirror preferably has a reflective surface with a radius of curvature of between 50mm and 250mm, preferably between 100mm and 200mm to give the best clear all-round view.

In order to reduce the risk of damage due to vandalism the mirror is preferably of metal with a reflective surface.

## BRIEF DESCRIPTION OF THE DRAWINGS

The following description and the accompanying drawings referred to therein are included by way of non-limiting example in order to illustrate how the invention may be put into practice. In the drawings:

Figure 1 is a front view of a cash dispensing machine of the invention,

Figure 2 is a vertical front-rear section through the machine, and

Figures 3-5 are front, top and side elevations of a rear-view mirror which is incorporated in the dispenser.

#### DETAILED DESCRIPTION OF THE DRAWINGS

Figs 1 and 2 of the drawings depict a conventional form of cash machine 1 which is mounted in a wall 2 such as an external wall of a bank or other building. The machine includes a back panel 3 which is set back into the wall 2, surrounded by top, left and right side, and bottom panels 4, 5, 6 and 7 respectively. The back panel 3 has a display screen 10 for providing instructions and other messages to the customer, together with function keys 11 by which the user can select various functions such as "withdraw cash", "statement" etc. In addition, there is a card slot 14 into which the user can enter his/her personal withdrawal card and a dispensing slot 15 through which the cash is issued on completion of a transaction.

A numerical keypad 16 is provided in the bottom panel 7, by which the user can enter numerical data when directed by the screen 10, such as his/her pin (personal identification) number and the amount of cash required.

In a normal sequence of events the user enters his/her card into the slot 14, enters his pin number into the keypad 16 when requested to do so by the screen 10, selects "withdrawal" by means of the function keys 11, enters the amount of cash required via the keypad 16, confirms the entry by means of

the function keys 11, removes his card from the slot 14, and then collects the cash from the slot 15. It will thus be appreciated that whilst the user is concentrating on this procedure there is every opportunity for a thief to see the user's pin number which is entered, and snatch the card or the cash and make a get-away before the user has time to react.

In accordance with the present invention however, a rear view mirror 20 is mounted on the back panel 3. As shown in Figs 3-5, the mirror is formed of a shatter-proof scratch-resistant substance such as chromium-plated brass or stainless steel and is generally of rectangular shape (e.g. 50mm x 80mm) with a convex reflective surface 21. The surface 21 could be curved in only one plane, but it has been found that forming the reflective surface as part of a sphere of radius about 100mm to 200mm generally gives acceptable results.

The mirror is attached to the back panel 3 in any convenient manner, e.g. by epoxy resin bonding or by bolts inserted through the panel 3. The mounting can be arranged to position the reflective surface at the required angle, which may vary from machine to machine depending upon the angle of the back panel 3. In the case of new machines the mirror can be incorporated on manufacture as an integral part of the machine.

The user can thus look into the mirror whilst they are using the machine, so that they can obtain a clear view behind and to both sides. Only quick glances in the mirror are usually required, and often the user will notice if anyone comes up behind them without making a conscious effort to look in the mirror or looking away from the machine. The user can therefore concentrate on the transaction whilst being reassured that they are not being observed too closely or are about to be attacked.

In some machines it may be necessary to include more than one mirror to ensure that the user has an adequate view.

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1. A wall-mounted cash dispensing machine including at least one rear-view mirror positioned such that the user of the machine can see behind him/her whilst operating the machine.
2. A cash machine according to Claim 1, in which the reflective surface of the mirror is convexly curved.
3. A cash machine according to Claim 2, in which the reflective surface of the mirror is formed as part of a sphere.
4. A cash machine according to Claim 2 or 3, in which the reflective surface has a radius of curvature of between 50mm and 250mm.
5. A cash machine according to Claim 4, in which the reflective surface has a radius of curvature of between 100mm and 200mm.
6. A cash machine according to any preceding claim, in which the mirror is formed of metal with a reflective surface.
7. A wall-mounted cash dispensing machine substantially as described with reference to the drawings.

\* \* \* \* \*



**Examiner:** Mr. G. Nicholls  
**Date of search:** 30 January 1996

**Patents Act 1977**  
**Search Report under Section 17**

**Databases searched:**

Other: ONLINE : WPI

**Documents considered to be relevant:**

Category	Identity of document and relevant passage	Relevant to claims
X	EP 0081433 A2 (POISSON) Whole document, especially page 5 line21 to 23	1
XP	DE 4340814 A1 (SEITZ) Whole document	1 to 3

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.